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REMARKS

The Applicants request reconsideration of the rejection.

Claims 3, 7-10, 14, and 18-22 are pending.

Claims 3, 5-8, 14, and 16-19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Birang U.S. Patent No. 5,708,506 (Birang).

In rejecting the claims over Birang, the Examiner continues to assert that photosensitive elements that detect intensity of light correspond to the claimed structure and steps for imaging. See, for example, Page 3 of the Office Action at lines 3-7: "[T]he rejections are respectfully maintained and incorporated by references (sic) as set forth in the prior Office Action Paper No. 10. Also, regarding the newly added limitation of 'by an optical imaging unit' in Claim 5, Birang further discloses the photo-detectors figure 7 84, 86 which is read as the optical imaging unit (see Col. 9, lines 63-65) as claimed."

As previously stated, however, the Examiner has already made the determination, for the record, that the imaging of the polishing pad surface is a separate, patentably distinct invention from that of simply detecting intensity from light scattered by the surface. Restriction Requirement dated November 15, .... at Page 2, item 2 ("Inventions Group I and

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Group II are related as subcombinations disclosed as usable together in a single combination. ... In the instant case, invention Group I has separate utility such as the evaluating step does not include imaging process which requires a camera."). Restriction Requirement at Page 3, Item 5 ("Inventions Group II and Group III are related as subcombinations disclosed as usable together in a single combination. ... In the instant case, invention Group III has separate utility such as the evaluating step does not include imaging process which requires a camera.").

The record does not show that Birang teaches or suggests that an image is derived from the scattered light. Rather, Birang only teaches that the light input to the detector is converted to a voltage signal, which is compared to a predetermined voltage level to determine whether the conditioning process (not the deterioration of the pad; a minimum degree of roughness is the objective) has reached an acceptable result. Accordingly, there is no teaching in Birang to image the pad surface, and the imaging cannot be considered to be obvious in light of the intensity detection taught by Birang.

To this end, Claims 7 and 18 have been rewritten in independent form, including all of the limitations of base

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Claims 5 and 16, respectively. Thus, the new independent Claims 7 and 18, and each of their respective dependent claims, are limited by requiring bi-level conversion to be performed on the image to obtain a bi-level image, and an area ratio of the bi-level image is used to evaluate the deterioration of the polishing pad surface. In light of these amendments, the Applicants submit that Claims 7 and 18, and their dependent claims, should be found patentable over the prior art including Birang.

As kindly suggested by the Examiner, Claims 9 and 20 have been rewritten into independent form, rendering them and their respective dependent claims allowable over the prior art.

In view of the foregoing amendments and remarks, the Applicants request reconsideration of the rejection and allowance of the claims.

Respectfully submitted,

  
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